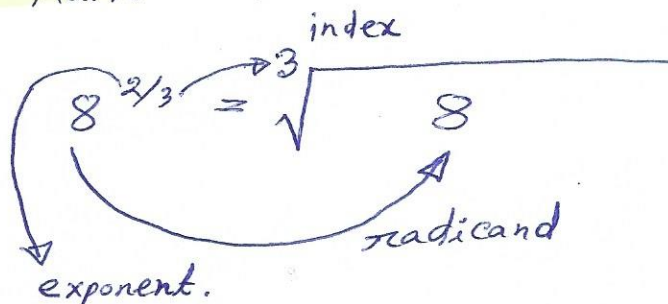


Date: 02.05.2019

IV Rational (Fractional) Exponents:



$\sqrt[3]{8}$ → what number may be used as a factor 3 times w/ the result of 8?

$$2 \cdot 2 \cdot 2 = 8$$

$$\text{So, } \sqrt[3]{8} = 2$$

$$\sqrt[4]{625} = \boxed{4} \boxed{\text{2nd}} \boxed{\sqrt{x}} \boxed{625} \boxed{=} \boxed{5}$$

using calculator

$$\sqrt[4]{625} = (625)^{1/4}$$
$$= \boxed{625} \boxed{y^x} \boxed{C} \boxed{1} \boxed{\div} \boxed{4} \boxed{)} \boxed{=} \boxed{5}$$

$$\sqrt[5]{x^7} = x^{7/5}$$

$$a^{b/c} = \sqrt[c]{a^b} \text{ or } (\sqrt{ab})^c$$

$$\sqrt[2]{7^1} = 7^{1/2}$$

$$7 = 7^1$$

$$\sqrt{x} = \sqrt[2]{x}$$

X	X^2	X^3	X^4	X^5
2	4	8	16	32
3	9	27	81	243
4	16	64	256	1024
5	25	125	625	3125

9. (a)

$$27^{-2/3}$$

$$(3^3)^{-2/3}$$

$$= \frac{3^{-2}}{1}$$

$$= \frac{1}{3^2}$$

$$= \boxed{\frac{1}{9}}$$

$$\left\{ \begin{array}{l} \frac{3}{1} \cdot \left(-\frac{2}{3}\right) \\ = \frac{-2 \cancel{3}}{\cancel{3}} \\ = -2 \end{array} \right.$$

1) change chart number to exponential form.

2) Mul. your exponents

3. Resolve neg. exponent problem.

10. (6)

$$\begin{aligned} & \left(\frac{1}{\sqrt{243}} \right)^{-2/5} \\ &= \left(\frac{1}{\sqrt{3^5}} \right)^{-2/5} \\ &= \left(\frac{1}{3^{5/2}} \right)^{-2/5} \\ &= \frac{1}{3^{-1}} = \frac{3}{1} \text{ or } \boxed{3} \end{aligned}$$

$$\begin{aligned} & \left(\frac{8}{27} \right)^{-2/3} \\ &= \left(\frac{2^3}{3^3} \right)^{-2/3} \\ &= \frac{2^{-2}}{3^{-2}} \\ &= \frac{3^2}{2^2} \\ &= \boxed{\frac{9}{4}} \end{aligned}$$